



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,141	12/09/2003	Yasunori Suzuki	246359US8	5899
22850	7590	09/22/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER FLANAGAN, KRISTA M	
			ART UNIT	PAPER NUMBER
			2817	
DATE MAILED: 09/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,141

Applicant(s)

SUZUKI ET AL.

Examiner

Krista M. Flanagan

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 32 is/are rejected.
- 7) ☒ Claim(s) 2-31 and 33-36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date See next page.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

IDS List
06/06/2005
04/08/2004
12/09/2003

DETAILED ACTION

Information Disclosure Statement

1. The Examiner would like to note that related application, serial number 10/806,245 to Suzuki et al., is acknowledged and is referenced on the PTO-892.

Claim Rejections - 35 USC § 102

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No 6,577,192 to Maniwa et al.
4. Regarding claims 1 and 32, in the prior art figure 18 and corresponding text at column lines 36-59, Maniwa discloses a radio transceiver comprising a digital signal processor (DSP), 50a, which modulates and predistorts a baseband signal to be transmitted using a compensation coefficient operating process; a quadrature modulating/demodulating unit, 50b, which up converts the processed baseband signal or down converts the a part of the signal outputted from the power amplifier; and a power amplifier, 50c, which applies a predetermined power to the signal and feeds it to an antenna for transmission. Maniwa does not explicitly disclose use of a digital to analog converter (DAC) in the prior art, however Maniwa does disclose a digital to analog converting unit, 11, as part of the DSP, 8, in the patent as shown in figure 2 and corresponding text at column 6, line 57- column 8, line 3 where the DAC is specifically mentioned at column 7, lines 42-44. This is an equivalent structure in the art and one of

Art Unit: 2817

ordinary skill in the art would have found it obvious to substitute the DSP having the DAC for the DSP without the DAC. Maniwa also fails to explicitly disclose predistortion by use of a power series model. However, Maniwa discloses the DSP, which generates compensation coefficients to change the coefficients of the power components (third or fifth order terms) of the amplitude quantity disclosed at column 6, lines 46-56. Therefore the DSP in Maniwa would be functionally equivalent to those generated by the claimed power series model.

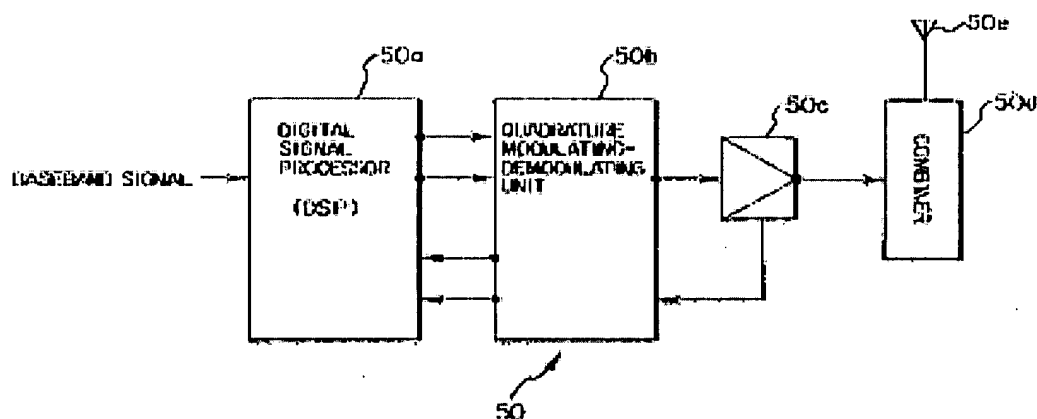


Figure 18

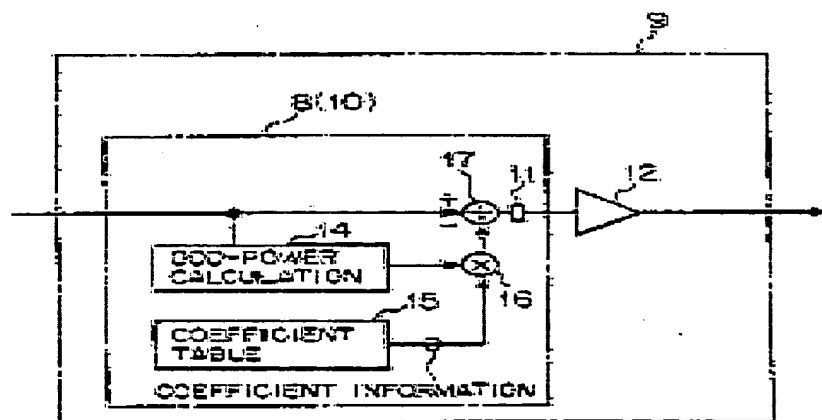


Figure 2

Allowable Subject Matter

5. Claims 2-31 and 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Note: Claims 26-31 are not given any patentable weight. Regarding claims 26-31, the method of forming the device is not germane to the issue of patentability of device itself.

Therefore this limitation has not been given patentable weight.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. US Patent No. 6,731,168 to Hedberg et al. discloses a power amplifier linearizer that compensates for long time constant memory effects.

b. US Patent No. 6,472,934 to Pehlke discloses a triple class E Doherty amplifier topology for high efficiency signal transmitters.

c. US patent No. 6,853,246 to Bauder et al. discloses an adaptive predistortion system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista M. Flanagan whose telephone number is (571) 272-2203.

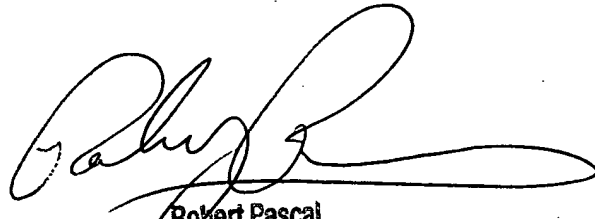
The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K. Flanagan
20050914



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800